Beyond Exchange: The Commitment-Trust Theory Revisited

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Abstract

An adapted model of the Morgan and Hunt (1994) model is developed using theoretical and empirical insights from a range of studies. This model is then tested utilising the Morgan and Hunt (1994) data (i.e., covariance matrix), the IRRP data (Young and Wilkinson 1989; Young and Wilkinson 1997)—a more comprehensive and diverse set of responses, and finally, employing alternative estimation procedures: AMOS as an application of the covariance-based method of structural equation estimation and PLS-Graph as an application of the variance-based approach. Results show that the proposed model is statistically superior to the original model proposed by Morgan and Hunt (1994) in terms of explanatory power and parsimony. Moreover comparing the adapted model to a direct effects model suggests that commitment and trust are crucial mediating variables in interfirm relationships.

Keywords: interfirm relations, commitment, trust

Introduction

Understanding the working relationships and outcomes of interfirm relationships has been a focus of many academics (Achrol 1991; Bucklin and Sengupta 1993; Morgan and Hunt 1994). Morgan and Hunt's (1994) work, in particular, has been a widely cited study in the past ten years. Over 400 authors have cited Morgan and Hunt's (1994) work in support of their own, however little scrutiny has been given to Morgan and Hunt's (1994) claims. Morgan and Hunt's (1994) research has limitations and pitfalls in a number of areas, which, in turn, affect related research that is based on their findings. The context of their study is the first limitation; the sample is limited in its generalisability to other marketing contexts; some construct definition and operationalisation are also questionable; and finally, whilst Morgan and Hunt (1994) support their causal paths with a plethora of historical literature, there is equal support for alternative causal paths. This study aims to address a set of these limitations, while simultaneously examining statistically the notion that commitment and trust are "not merely two more antecedents" but "key mediating variables" in respect to the functioning of interfirm relationships.

Our Study

In our study we maintain that commitment and trust are mediating concepts in explaining the functioning of interfirm relationships. For parsimony reasons, we have excluded several concepts as their role in explaining facets of the functioning of business relationships has been considered questionable. For example, there is a lack of empirical support for the effect of relationship benefits on relationship commitment and there is difficulty in conceptualising different roles played by shared values and acquiescence. The adapted model includes the following eight constructs, as compared to twelve in the original model: we maintain that shared values, communication and opportunistic behaviour are antecedents to commitment

and trust, and that trust also plays a role in explaining variations in commitment. The model also holds that the propensity to exit the relationship, as well as cooperation and functional conflict are consequences of commitment and trust. Figure 1 shows the hypotheses.

Figure 1: Hypotheses

1	*There is a positive relationship between shared values and relationship commitment*
2	*There is a positive relationship between shared values and trust*
3	*There is a positive relationship between communication and trust*
4	*There is a negative relationship between opportunistic behaviour and trust*
5	*There is a positive relationship between trust and relationship commitment*
6	*There is a negative relationship between relationship commitment and propensity to leave*
7	*There is a positive relationship between relationship commitment and cooperation*
8	*There is a positive relationship between trust and cooperation*
9	*There is a positive relationship between trust and functional conflict*

Empirical Study

To test the hypothesised relationships in our model, we undertook three analyses[i]. First, using the covariance matrix available from Morgan and Hunt's (1994) study, we examined the adapted model employing AMOS as our estimation package. Second, using the IRRP dataset from Young and Wilkinson (Young and Wilkinson 1989, 1997) we explored the hypotheses using AMOS. And finally, utilising the IRRP dataset we have carried out PLS to assess the adapted model. Combining these estimations provides a stronger basis for drawing conclusions regarding the hypothesised, adapted model. A summary of the results is reported in Figure 3.

Morgan and Hunt's (1994) covariance matrix

The following section will first provide results that replicate those found by Morgan and Hunt (1994) in order to show that replication of the model and their results is possible. Second, the adapted model will be tested using Morgan and Hunt's (1994) original data in order to allow for comparison of the two models. Morgan and Hunt's (1994) original sample included 204 independent tire retailers. The approach of Morgan and Hunt (1994), where the weights were fixed at 0.950 for the formative measurement scales (i.e., relationship benefits, communication, opportunistic behaviour, trust, acquiescence, propensity to leave, functional conflict and uncertainty) and fixed at the scales' coefficient alpha for reflective measurement scales (i.e., relationship termination costs, shared values, relationship commitment, cooperation), was replicated. In maintaining congruency, the exogenous constructs were allowed to correlate by freeing the phi Φ matrix and the error variances for each term were fixed.

The results are consistent with the Morgan and Hunt (1994) results; the path analysis results showed that 12 of the 13 hypothesised paths were supported in the model ($p > .01$). The only non-significant path was that between relationship benefits and relationship commitment, which mirrored the original results. The fit statistics for the present analysis CFI = .889, GFI = .892, PNFI = .555 also were congruent with the original results found by Morgan and Hunt (1994), CFI = .890, GFI[ii] = .892, PNFI = .555. Although the chi-square statistic differed slightly between the original and the present results, the statistic is sensitive to the sample size and as such not considered a reliable statistic (Biddle and Marlin 1987)A number of relevant fit statistics are not noted by Morgan and Hunt (1994), however, they are available for the

present analysis, TLI = .830, AGFI = .804, AIC = 211.075. The present analysis provides slightly differing yet similarly supporting fit statistics to the original results by Morgan and Hunt (1994). These differences however may be attributed to the alternative software used and the decimal rounding of the original results. Morgan and Hunt (1994) suggest that these fit statistics provide reasonable support for the model given the early stages of theory development and note that the low CFI can be attributed to the large number of constructs. The TLI[iii] for the analysis does not meet the statistical convention.

The results of the adapted model provide a similar fit of the data as for the original model. The chi-square is significant (p = .000) which would, without any other statistics, suggest that the adapted model should possibly be rejected. As this statistic is sensitive to the sample size it is necessary to assess the other fit statistics in order to more accurately assess the significance of the proposed model. The normed chi-square for the proposed model provides support for the adequacy of the model ($\chi 2/df = 2.910$) as do the other fit statistics, CFI = .952, GFI = .946, AGFI = .878, PNFI = .531, AIC = 86.558 and the TLI = .916. The fit statistics suggest that the original and adapted models are very similar in terms of their explanatory power. As parsimony is of primary importance in model building, it is important to draw attention to the AIC statistic[iv]. The AIC for the adapted model proved to be better than the original model's AIC; thus suggesting that the adapted model is a better fit for the data.

Young and Wilkinson's (1989, 1997) IRRP dataset

The IRRP database includes data collected to examine interfirm relationships where items were developed based on a number of previous studies (Arndt 1982; Fraizer 1984; Hakansson 1982; Schul et al. 1985; Schurr and Ozanne 1985). The IRRP database was collected in both 1991 and 1994. The questions that were relevant to this study remained consistent across the two separate surveys. This data has been examined in a number of studies investigating interfirm relations in marketing channels (Young and Wilkinson 1989; Young and Wilkinson 1997)[v].

Using the items from the IRRP dataset, we have developed seven multi-item reflective measurement scales, one single item scale (i.e., functional conflict), and two formative measurement scales for the constructs embedded in our adapted model. For reflective scales we have assessed unidimensionality, convergent and discriminant validity, reliability and variance extracted. For the two formative scales, we have identified one single item for each of the dimensions captured in a single formative scale. Final test statistics for the multi-item measurement scales are summarised in Figure 2. The conceptual and statistical assessments suggest that the scales are adequate for measuring our constructs.

To test the adapted model using AMOS 4 and the IRRP database we have fixed the error variance for the two formative measurement scales and the single item scale (i.e., shared values = 0.202562; opportunistic behaviour = 0.10749; functional conflict = 0.3697), whereas the reflective scales error variances were freed. The results indicate support ($p<0.001$) for six of the nine hypothesised paths in the adapted model. With the exception of the effect of opportunistic behaviour on trust, all hypothesised paths are supported from the antecedents to relationship commitment and trust. Also, the squared multiple correlations for the structural equations for relationship commitment and trust are high. Over half of the variance (SMC = 0.938) in relationship commitment, is explained by the direct effects of shared values and trust, and the indirect effects of communication. For trust, the direct effects of communication and shared values again explains over half (SMC = 0.906) of the variance. Two of the four

effects of relationship commitment and trust are significant ($p<0.001$), the effects on cooperation are not significant. The two effects that are significant however suggest that relationship commitment and trust explain an adequate proportion of variance for the propensity to leave (SMC = 0.641) and functional conflict (SMC = 0.535). While the chi-square is significant (p = .000) and the normed chi-square ($\chi 2/df = 4.760$) suggests that the adapted model might be inadequate, however, the other fit statistics suggest that the model performs particularly well. CFI = .869, GFI = .830, AGFI = .778, PNFI = .712, and the TLI = .845. The RMSEA (.098), which accounts for parsimony which is a little higher than the recommended, however this index is lower than that of the original model.

Figure 2: Multi-Item Measurement Scales

Trust – Reflective Measurement Scale	Loading
1. My firm trusts firm X	.923
2. We have confidence in the accuracy of information my firm gets from Firm X	.865
3. My firm can have the confidence in the fairness and honesty of firm X	.865
4. When an agreement is made with firm X, my firm can rely on them to fulfil all the requirements involved	.860.
5. The relationship between my firm and Firm X is characterised by confidence in each other	.844
Alpha	.9203
Construct Reliability	0.923
Convergent Validity AVE	0.707
|CR |> 2	√
Discriminat Validity AVE > O^2_{max}	√
Commitment – Reflective Measurement Scale	**Loading**
1. My firm has the desire and ability to maintain a good trading relationship	.805
2. My firm has a genuine interest in firm X's continued business	.704
3. The relationship between my firm and Firm X is characterized by high levels if commitment to the relationship	.818
4. My firm works well as a team with firm X	.839
Alpha	.7957
Construct Reliability	0.871
Convergent Validity AVE	0.629
|CR |> 2	√
Discriminat Validity	√
Communication – Reflective Measurement Scale	**Loading**
1. Communication between my firm and firm X is very efficient	.853
2. We are kept informed by firm X about things my firm ought to know	.843
3. My firm can always rely on being informed early enough by firm X in areas of importance	.821
Alpha	.7894
Construct Reliability	0.877
Convergent Validity AVE	0.704
|CR |> 2	√
Discriminant Validity	√
Cooperation – Reflective Measurement Scale	**Loading**
1. Words which describe relationship – Coordination	.863
2. Words which describe relationship – Coalition of interests	.863
Alpha	.6557
Propensity to Leave – Reflective Measurement Scale	**Loading**
1. How likely or unlikely is it that your firm will stop trading with firm X in the foreseeable future?	.865
2. Assuming an alternative to firm X is available, how likely or unlikely is your firm to switch?	.792
3. To what extent does your firm want to continue doing business with firm X	.813
Alpha	.7619
Construct Reliability	.782b
Convergent Validity AVE	0.547
|CR |> 2	√
Discriminant Validity	√
Shared values – Formative measurement Scale	**Weight**
1. SVBB – My firm is interested in making Firm X's operations profitable – Firm X is interested in making my	0.1681
2. SVBC – My firm is usually able to look at issues from firm X's point of view – Firm X is usually able to look	0.7222
3. SVBF – My firms profitability is sometimes obtained at the cost of firm X's profitability – Firm X's	0.3282

4. SVBH – My firm works well as a team with firm X – Firm X works well as a team with my Firm	0.2865
Opportunism – Formative Measurement Scale	Weight
Indicate if firm X has or would do this to your firm…	
1. Increasing the price of a product or a service without warning.	0.7312
2. Getting together with a competitor to gain an advantage over a trading partner	0.4439
3. Misleading a firm to gain a business advantage	0.1743

To examine the veracity of parsimony regarding the adapted model we have tested a direct effects model. Testing the direct effects not only strengthens the effectiveness of parsimony but also provides a significant amount of support for the two mediating variables. This model allows no indirect effects. As a result, "relationship commitment and trust are not allowed to mediate any of the relationships" (Morgan and Hunt 1994). Some literature suggests that the antecedents, shared values, communication and opportunistic behaviour have a direct effect on the outcomes of interfirm relationships. While the CFI of the Direct Effects Model was relatively high (CFI = 0.874) only 2 of the 15 hypothesised paths were significant ($p>0.100$). Importantly one of these paths in the Direct Effects Model is a significant indirect effect in the adapted model. The findings suggest that the mediating variables commitment and trust are important in explaining the functioning of interfirm relationships.

Finally, we estimated the adapted model using PLS and the IRRP database. Of the nine relationships seven are significant ($p>0.01$). As predicted the impacts of shared values and communication on trust are all statistically significant and positive ($\beta = 0.064$, $t = 5.0062$, $\beta = 0.805$, $t = 37.8938$ respectively). Opportunistic behaviour's effect on trust is not significant. The effect of shared values to commitment is significant and positive ($\beta = 0.121$, $t= 3.3720$) as is the effect of trust on commitment ($\beta = 0.823$, $t = 49.1936$). Trust has a positive and significant impact on functional conflict ($\beta = 0.610$, $t = 18.0533$), however it does not have a significant impact on cooperation. Commitment has a small but significant effect on cooperation ($\beta = 0.170$, $t = 2.4686$) and a substantial negative effect on propensity to leave ($\beta = -0.729$, $t = 29.3148$). Also, on average, the PLS estimations suggest adequate levels of explanatory power (trust: $R^2 = 0.632$; commitment: $R^2 = 0.659$; cooperation: $R^2 = 0.113 \rightarrow$ this R^2 is somewhat low; functional conflict: $R^2 = 0.372$; and propensity to leave: $R^2 = 0.530$).

Figure 3: Results of Model Estimations

	Original Model (1994) LISRAL VII	Original Model (2003) AMOS	Adapted Model (2003) AMOS	Adapted Model (2003) AMOS	Adapted Model (2003) PLS
Statistical Indices	Original Data	Original Data	Original Data	IRRP Data	IRRP Data
CFI	.889	.890	.952	.869	-
GFI	.892	.892	.946	.830	-
PNFI	.555	.555	.531	.712	-
TLI	-	.830	.916	.845	-
AGFI	-	.804	.878	.778	-
AIC	-	211.075	86.558	864.420	-
RMSEA	-	.106	.097	.098	-
Average R^2	-	-	-	-	0.416
% OF SIG. PATHS	-	-	-	-	78%

Conclusions

An adapted model of Morgan and Hunt (1994) model was developed. Results show that the proposed model is statistically superior to the original model proposed by Morgan and Hunt (1994) in terms of explanatory power and parsimony. Moreover comparing the adapted model to a direct effects model showed that commitment and trust are crucial mediating variables in

interfirm relationships. These findings are of relevance to theories such as social interaction exchange theory, interorganisation theory and network organisation theory. Future studies can build upon this paper by (a) examining competing models examining further theoretical facets of interfirm relationships, and (b) addressing some of the limitations of the study reported in this paper; for example, while this study has relied on existing datasets, additional research could be based on specifically collected data of, ideally, longitudinally nature.

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[i] In addition, we have also estimated the original Morgan and Hunt (1994) model using AMOS to have a basis for comparison. Note that Morgan and Hunt (1994) had used LISREL to estimate their model.

[ii] Although the GFI is less sensitive to sample size (Stapleton, 1997) it has been suggested however that this statistic is fairly biased and should not be used.

[iii] The TLI is an incremental fit measure that "combines the measure of parsimony into a comparative fit index" (Hair et al. 1998). The demarcated cut off, or the TLI is .90 or greater (Tucker and Lewis 1973).

[iv] The AIC provides a comparative index between models with differing numbers of constructs.

[v] For more information on sample characteristics please refer to "The Space Between: Towards a Typology of Interfirm Relations" (Young and Wilkinson, 1997).